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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,427	07/29/2003	Wendell P. Noble	MI22-2378	7832
21567	7590	09/19/2006	EXAMINER	
WELLS ST. JOHN P.S. 601 W. FIRST AVENUE, SUITE 1300 SPOKANE, WA 99201			SCHILLINGER, LAURA M	
			ART UNIT	PAPER NUMBER
			2813	

DATE MAILED: 09/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/630,427

Applicant(s)

WENDELL NOBEL

Examiner

Laura M. Schillinger

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 40-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 40-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 40-43 are rejected under 35 U.S.C. 102(e) as being anticipated by Yao et al ('089).

In reference to claim 40, Yao claims a method comprising:

forming an oxide isolation grid between silicon structures (Fig.7 (95, 97, 98), at least a portion of the grid (98) surrounding the lateral edges of at least one of the structures , wherein an upper portion of the one of the structures is bare (94) (Fig.7);

forming conductive material within the oxide isolation grid to form a conductive grid therein (Fig.7 (87,82, 99), and
removing selected portions of the conductive material grid to define interconnect lines within the oxide isolation grid(Col.7, lines: 60-68).

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In reference to claim 41, Yao teaches the method of claim 40 of forming conductive lines of claim 40, wherein forming an oxide isolation grid comprises forming individual oxide isolation regions over a silicon substrate by trench and refill technique. (Fig.7 (97)).

In reference to claim 42, Yao teaches the method of forming conductive lines of claim 40, wherein forming an oxide isolation grid comprises:
the silicon structures comprise silicon-containing islands (94) over an insulative surface (95), and forming oxide isolation grid comprises forming oxide isolation regions between silicon-containing islands (Fig.7 (97)).

In reference to claim 43, Yao claims wherein forming the conductive grid within the oxide isolation grid comprises:

Etching into the oxide isolation grid to define a network of outwardly-exposed trenches running within the oxide isolation grid (Col.7, lines: 60-68);

Forming conductive material within and over the outwardly-exposed trenches to a degree sufficient to completely fill the trenches (Col.7, lines: 60-68); and

Planarizing the conductive material to isolate conductive material within the trenches and to define the conductive grid (Col.7, lines: 60-65).

Response to Arguments

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Applicant's arguments filed 5/8/06 have been fully considered but they are not persuasive. Applicant argues that Fig.8 does not contain elements 87, 82, 99- the Examiner takes note of her typo- the typo has been corrected. Applicant is considered to have had notice that this was a typo since the body of the rejection relies on Fig. 7 which has all recited elements found therein- moreover Applicant is responsible for the teachings of the reference as a whole and not merely the cited portions provided by the Examiner. Applicant has requested a more detailed explanation as to who the elements cited by the Examiner pertain to the grid claimed by the Applicant. To embellish upon the teachings of Yao, the conductive layers are formed inbetween the oxide layers which form the grid as depicted in Fig.9. This is because oxide layers 97 are in fact a cross sectional view of a line of oxides which run in the z direction into the page because the picture is a 2-D version of a 3-D structure; likewise layer 97 intersects with layer 98 which is running in the x direction, or parallel with the substrate. These two sets of oxidation lines would create a grid from a bird's eye view of the 3-D structure. This helps isolate the conductive lines which mimic the same configuration of the oxide layers. Therefore, Applicant's claimed limitations are anticipated by Yao's teachings.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**


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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura M. Schillinger whose telephone number is (571) 272-1697. The examiner can normally be reached on M-T, R-F 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl W. Whitehead, Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


9/15/06

Laura M Schillinger
Primary Examiner
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